

WHAT IS CLAIMED IS:

1. A surface cleaning device comprising:

a cleaning component for placement on a first surface to be cleaned and having magnetic elements carried therein and,

5 means for cleaning the surface;

an actuating component for placement adjacent the cleaning component on a second surface opposite from the first surface and having a support means containing

an actuator with complementary magnetic elements to the magnetic elements of the cleaning component for attraction thereof through the first and  
10 second surface,

a motor operably attached to the actuator for inducing motion of the actuator, the motion of the actuator urging complementary motion of the cleaning component through magnetic attraction of the magnetic elements and complementary magnetic elements; and,

15 means for powering the motor.

2. A surface cleaning device as defined in claim 1 wherein the cleaning component comprises a unitary foam disc having a plurality of apertures radially spaced about an axis, the apertures sized to closely receive the magnetic elements, the foam disc having a first surface for engaging the surface as the means for cleaning the surface.

20 3. A surface cleaning device as defined in claim 1 wherein the cleaning component comprises a substantially circular body incorporating means for carrying the magnetic elements and having a plurality of brushes extending from a first surface for engaging the surface as the means for cleaning the surface.

4. A surface cleaning device as defined in claim 1 wherein the motor is a DC motor  
25 and the means for powering the motor comprises:

a battery; and

a switch for connecting the battery to the motor.

5. A surface cleaning device as defined in claim 4 wherein the switch is a spring loaded contact switch.
6. A surface cleaning device as defined in claim 1 wherein the motor has a pinion gear and the actuator comprises a disc incorporating gear teeth on a circumference of the disc for mating to the pinion gear to rotate the actuator.
7. A surface cleaning device as defined in claim 1 wherein the motor has a drive axle and the actuator is a disc mounted to the drive axle causing rotational motion of the actuator.
8. A surface cleaning device as defined in claim 1 wherein the motor has an eccentric drive axle and the actuator is mounted to the drive axle causing oscillatory reciprocating motion of the actuator.
9. A surface cleaning device as defined in claim 6 further comprising a reversing circuit connected to the motor.
10. A surface cleaning device as defined in claim 7 further comprising a reversing circuit connected to the motor.
11. A surface cleaning device as defined in claim 2 wherein the means for cleaning the surface comprises an abrasive surface on the disc.
12. A surface cleaning device as defined in claim 1 wherein the actuating component incorporates means for cleaning the opposite surface.
13. A surface cleaning device as defined in claim 1 wherein the cleaning component comprises a sleeve having means for rotational support of a disc and wherein the magnetic elements are housed within the disc.
14. A surface cleaning device as defined in claim 13 wherein the means for rotation support comprises a magnetic sphere constrained at a rotation point on the sleeve.
15. A surface cleaning device as defined in claim 13 wherein the sleeve further incorporates corner magnets and the actuating component further incorporates complementary corner magnets for attraction of the corner magnets of the sleeve.

16. A surface cleaning device as defined in claim 15 wherein the corner magnets are of opposite polarity to the magnetic elements housed within the disc.

17. A surface cleaning device as defined in claim 13 wherein the sleeve is adapted for use in water and further incorporates means for orienting the sleeve.

5 19. A surface cleaning device as defined in claim 13 wherein the sleeve further incorporates a sand guard for use of the invention in an aquarium cleaning capacity.

20. A surface cleaning device comprising:

a cleaning component for placement on a first surface to be cleaned and having

10 a sleeve incorporating a magnetic sphere at a rotation point and a plurality of corner magnets,

a cleaning disc having central aperture carrying a centering magnet attracted to and rotating on the magnetic sphere and further carrying a plurality of radially spaced magnetic elements, the disc having an abrasive surface element adjacent the first surface;

15 an actuating component for placement on a second surface opposite from the first surface adjacent the cleaning component and having a support means containing

an actuation disc with complementary magnetic elements to the magnetic elements mounted in the cleaning disc for attraction thereof through the first and second surface,

20 a DC motor attached to the actuation disc by a circumferential belt drive for inducing rotation of the actuation disc, the motion of the actuation disc urging complementary motion of the cleaning disc through magnetic attraction of the magnetic elements and complementary magnetic elements,

25 a plurality of mating corner magnets of complimentary polarity to the corner magnets on the sleeve and supported by the support means in complementary spaced relation to the corner magnets on the sleeve for attraction thereof through the surface, the polarity of the corner magnets and mating corner

magnets opposite to the magnetic elements and complementary magnetic elements respectively;

batteries carried by the support means for powering the motor; and,  
a switch for activating the motor.